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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,709	02/24/2004	Richard F. Dean	020505	3646
23596	7590	10/16/2008		
QUALCOMM INCORPORATED				
5775 MOREHOUSE DR.				
SAN DIEGO, CA 92121				
EXAMINER				
REGO, DOMINIC E				
ART UNIT		PAPER NUMBER		
2618				
NOTIFICATION DATE		DELIVERY MODE		
10/16/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/786,709

Applicant(s)

DEAN, RICHARD F.

Examiner

DOMINIC E. REGO

Art Unit

2618

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10 and 12-20 is/are rejected.
- 7) ☒ Claim(s) 2,11 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This communication is responsive to the application filed on 06/26/2008.

Claims 1-21 are pending and presented for prosecution.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,3-5,9,10,12-14,18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwai (*US Patent #5,815,795*).

Regarding claims 1,10 and 19, Iwai teaches method/apparatus for detecting oscillation in a repeater system (*Col 2, line 9-14; Col 2, line 50-56*) comprising: processing communication signals in a wireless communication device circuit (Figure 4, item 30a) embedded in a repeater (Figure 4); and using the communication signals processed at the wireless communication device circuit to determine if the repeater system is in oscillation (*Col 1, line 7-15; Col 2, line 9-14; Col 2, line 50-56, especially Col 2, line 50-56, Iwai teaches the present*

Art Unit: 2618

invention to provide a wireless repeater capable of automatically detecting its own oscillation with accuracy, so processing communication signals in a wireless communication device circuit embedded in this wireless repeater is inherent and using the communication signals processed at the wireless communication circuit to determine if the repeater system is in oscillation).

Regarding claims 3,4,12 and 13, Iwai teaches the method/apparatus, wherein using the wireless communication device circuit comprises: using the wireless communication device circuit to measure signal quality from the base station; and determining oscillation if the signal quality meets a certain criteria (*Col 3, line 14-21; Col 3, line 46-53*).

Regarding claim 5, and 14, Iwai teaches the method, wherein determining oscillation comprises determining oscillation if the signal quality degrades from a level that existed before the repeater was used (*Col 3, line 14-21; Col 3, line 46-53*).

Regarding claims 9 and 18, Iwai teaches the method, further comprising: reducing gain of repeater if the repeater system is in oscillation (*Col 9, line 18-29*).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

Art Unit: 2618

said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-8 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwai (*US Patent #5,815,795*) in view of Seki et al. (*US Patent #20040248581*).

Regarding claim 6 and 15, Iwai teaches all the claimed elements in claims 3 and 12, except for the method/apparatus, wherein using the wireless communication device circuit comprises: obtaining signal to noise ratio value to measure the signal quality.

However, in related art, Seki teaches the method/apparatus, wherein using the wireless communication device circuit comprises: obtaining signal to noise ratio value to measure the signal quality (*Paragraph 0006 and claim 3*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the teaching of the method/apparatus, wherein using the wireless communication device circuit comprises: obtaining signal to noise ratio value to measure the signal quality, as taught by Seki, in the Iwai device in order to receive a signal with desired quality (*Seki, paragraph 0006*).

Regarding claims 7 and 16, Iwai teaches, the method/apparatus, wherein using the wireless communication device circuit comprises: using the wireless communication device circuit to estimate at least one open loop power control parameter; establishing a communication link from the wireless

Art Unit: 2618

communication device circuit to a base station using the estimated open loop power control parameter; and determining oscillation if the closed loop power control command is greater than a certain amount (*Col 2, line 50-Col 3, line 21*), except for the method/apparatus, wherein using the wireless communication device circuit comprises: receiving at least one closed loop power control command from the base station.

However, in related art, Seki teaches receiving at least one closed loop power control command from the base station (*Paragraph 0006*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the teaching of the method/apparatus, wherein using the wireless communication device circuit comprises: receiving at least one closed loop power control command from the base station, as taught by Seki, in the Iwai device in order to adjust the transmission power with the target value and avoid the oscillation.

Regarding claims 8 and 17, the combination of Iwai and seki teach all the claimed elements in claim 7 and 16. In addition, Seki teaches the method/apparatus, wherein using the wireless communication device circuit comprises estimating at least a required transmit power to complete the call, wherein receiving closed loop power control commands comprises receiving at least power adjustment information (*Paragraph 0006*), and Iwai teaches wherein determining oscillation comprises determining oscillation if the power adjustment information is greater than a certain amount (*Col 2, line 50-Col 3, line 21*).

Art Unit: 2618

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwai (*US Patent #5,815,795*) in view of admitted prior art.

Regarding claim 20, Iwai fails to teach the method wherein the using step uses the ratio of energy of a chip of a pilot signal to total interference (E_c/I_o) obtained from the processed communication signals to determine if the repeater system is in oscillation. However, Applicant admitted in paragraph 055, the method wherein the using step uses the ratio of energy of a chip of a pilot signal to total interference (E_c/I_o) obtained from the processed communication signals to determine if the repeater system is in oscillation is well-known (Paragraph 0055). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Admitted prior art to Iwai in order to measure quality of signal.

Allowable Subject Matter

7. Claims 2,11, and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 2 and 11, the prior art of record fails to teach the method/apparatus, wherein using the wireless communication device circuit comprises:

Art Unit: 2618

establishing a call from the wireless communication device circuit to a base station; and

determining oscillation if the call cannot be established.

8. Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching of all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Response to Arguments

9. Applicant's arguments filed 6/26/2008 have been fully considered but they are not persuasive. Regarding claims 1,10, and 19, pages 7-9, Applicant argues that Iwai does not teach method/apparatus for detecting oscillation in a repeater system comprising: processing communication signals in a wireless communication device circuit embedded in a repeater; and using the communication signals processed at the wireless communication device circuit to determine if the repeater system is in oscillation. The Examiner disagrees. In Col 2, lines 50-56, Iwai teaches the present invention to provide a wireless repeater

Art Unit: 2618

capable of automatically detecting its own oscillation with accuracy. Col 6, lines 8-44, Iwai teaches the wireless repeater is shown in FIG. 3 as further comprising an up-communication repeater unit 30a for up-communication in which information is transmitted from the first mobile station 4a in the silent zone SZ to the base station 2, a down-communication repeater unit 30b for down-communication in which information is transmitted from the base station 2 to the first mobile station 4a in the silent zone SZ. So wireless communication device circuit inherently or must be embedded in a repeater in order to communicate with a mobile station or base station. Also, see figure 4, a wireless communication device circuit 30a embedded in a repeater. Page 9, Applicant argues that Iwai does not disclose or suggest "using the communication signals processed at the wireless communication device circuit to determine if the repeater system is oscillation". The Examiner disagrees. Col 6, lines 30-44, Iwai teaches the wireless repeater 3 further comprises a first duplexer 31 for allowing the input or output signal to be transmitted selectively from the mobile station side antenna 3a to the up-communication repeater unit 30a and from the down-communication repeater unit 30b to the mobile station side antenna 3a, and a second duplexer 36 for allowing the input or output signal to be transmitted selectively from the base station side antenna 3b to the down-communication repeater unit 30b and from the up-communication repeater unit 30a to the base station side antenna 3b. Col 6, lines 45-60, Iwai teaches the pre-amplifier 32 is designed to amplify the input signal from the first duplexer 31 to the extent of a predetermined level. The variable attenuator 33 is designed to regulate the amplified signal received

Art Unit: 2618

from the pre-amplifier 32 in accordance with a driving signal received from the driving circuit 37 to restrict the output signal outputted from the main amplifier 34 to a predetermined upper-limiting level. The main amplifier 34 is designed to amplify the regulated signal received from the variable attenuator 33 to produce the output signal. The divider 35 is designed to divide the output signal received from the main amplifier 34 between the second duplexer 36 and the oscillation detecting apparatus 1. Col 7, lines 31-38, Iwai teaches the envelope detector 11 is operated to receive the output signal fed to the oscillation detecting apparatus 1 and to produce an envelope of the output signal. This means that low frequency components including the following direct current component and the following alternating current component are derived from the output signal fed to the oscillation detecting apparatus 1. Col 8, lines 55-62, Iwai teaches in the monitoring circuit 17, a judgment is made on whether the direct current output level has reached the predetermined upper-limiting level or not. If the monitoring circuit 17 judges that the direct current output level has reached the predetermined upper-limiting level, the monitoring circuit 17 determines that the first mobile station 4a approaches the wireless repeater 3 or that the wireless repeater 3 is oscillating.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 8:30 am-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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